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## MADISON COUNTY

### (Madison County Water Service Area Map)

- Estimated 1999 population of 60,500--92% on public water
- Estimated 2020 population of 72,800--93% on public water
- 595 miles of water lines, with plans for 96 additional miles
- Estimated funding needs for public water 2000-2005--\$6,650,000
- Estimated funding needs for public water 2006-2020--\$43,605,000

Madison County had an estimated population of 60,543 (24,869 households) in 1999 with a projected population of 72,809 (33,067 households) in 2020. Public water is provided to about 92 percent of the county's residents. In areas of the county not served by public water, about 20 percent of the households rely on private domestic wells and 80 percent of the households rely on other sources. About 460 customers will be added to public water service through new line extensions in 2000-2020.

#### *Estimated Costs - Proposed Projects, 2000-2005*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	In \$1000	in \$1000	in \$1000	in \$1000	in \$1000
MADISON								-
Richmond				500		2,300	1,300	4,100
Berea				350				350
Garrard Co. W/A	2.5	19	110					110
Kirksville	8.5	33	450				550	1,000
Whitehall W/D	4.0	34	120	150			250	520
Waco W/D	5.0	14	200				250	450
S. Madison W/D	3.0	9	120					120
TOTAL	23.0	109	1,000	1,000		2,300	2,350	6,650

#### *Estimated Costs - Proposed Projects, 2006-2020*

COUNTY/System		New Customers		Rehab	Source	Treatment	Tanks/ Pumps	Total
	Miles	Number	Cost in \$1000	in \$1000	in \$1000	in \$1000	in \$1000	in \$1000
MADISON								-
Richmond				6,050		16,400	6,000	28,450
Berea				2,800	3,000	2,200	1,150	9,150
Garrard Co. W/A	2	19	85					85
Kirksville	24.5	108	1,400					1,400
Whitehall W/D	6	43	200	1,220				1,420
Waco W/D	28	119	1,200					1,200
S. Madison W/D	3	19	100	1,400				1,500
Kingston-Terrill W/D	9	42	400					400
Total	72.5	350	3,385	11,470	3,000	18,600	7,150	43,605

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# WATER SERVICE AREAS

## MADISON COUNTY

### Kentucky

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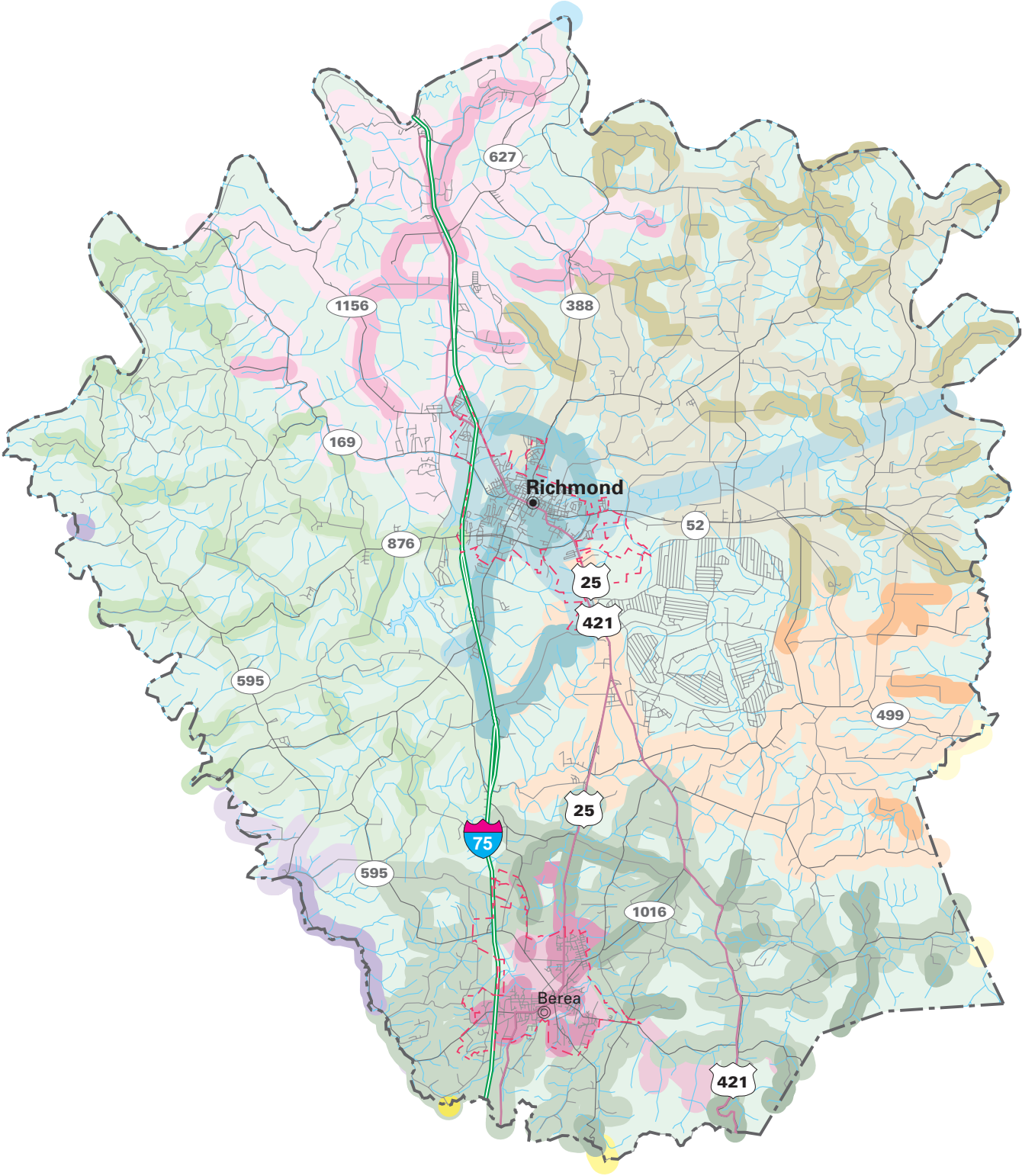
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#### WATER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
		WESTERN ROCKCASTLE WATER ASSOCIATION
		SOUTHERN MADISON WATER DISTRICT
		RICHMOND WATER/GAS/SEWER WORKS
		MADISON COUNTY UTILITIES/WHITE HALL
		MADISON COUNTY UTILITIES/WACO
		MADISON COUNTY UTILITIES/KINGSTON-TERRILL
		KIRKSVILLE WATER ASSOCIATION
		GARRARD COUNTY WATER ASSOCIATION INCORPORATED
		ESTILL COUNTY WATER DISTRICT
		BOONESBORO WATER ASSOCIATION/KY AMERICAN
		BEREA COLLEGE WATER DEPARTMENT

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## PUBLIC WATER SYSTEMS

Madison County has 7 public water systems: 5 community -- 1 municipal, Richmond Water, Gas, & Sewer Works; 2 water districts, Madison County Utility District (Kingston-Terrill, Waco, White Hall) and Southern Madison Water District; 1 water association, Kirksville Water Association; 1 private, Berea College Water Department; and 2 non-community systems. Part of the county is also served by the Garrard County Water Association.

### **BEREA COLLEGE WATER DEPARTMENT**

PWSID: ..... 0760030  
System Type: ..... COMMUNITY  
Owner Type: ..... PRIVATE  
Surface Source: ..... COWBELL LAKE  
Purchase Source:  
Well Source:  
Sells Water to:  
Treatment Plant Capacity (MGD): ..... 4.00  
Percent Daily Average Production: ..... 61.00  
Total Tank Storage Capacity (gallons): ..... 500,000.00  
Total Service Connections: ..... 461.00  
Number of Employees: ..... 0.00  
Treatment Operator Class: ..... 2D  
Distribution Operator Class: ..... 4A  
Customer Rate for 1,000 Gallons: ..... 5.03  
O/M costs 1997: ..... 857,313.20  
O/M costs per Service Connection: ..... 243.69  
Net Revenue 1997: ..... 322,370.60  
Total Water Produced 1997 (gallons): ..... 784,102,000.00  
Water Sold 1997 (gallons): ..... 636,280,802.00  
Unaccounted-for Water 1997 (%): ..... 14.24

### **MADISON COUNTY UTILITIES/KINGSTON-TERRILL**

PWSID: ..... 0760224  
System Type: ..... COMMUNITY  
Owner Type: ..... WATER DISTRICT  
Surface Source:  
Purchase Source:  
Well Source:  
Sells Water to:  
Treatment Plant Capacity (MGD): ..... 0.00  
Percent Daily Average Production: ..... 0.00  
Total Tank Storage Capacity (gallons): ..... 100,000.00  
Total Service Connections: ..... 0.00  
Number of Employees: ..... 0.00  
Treatment Operator Class: ..... 2D  
Distribution Operator Class:  
Customer Rate for 1,000 Gallons: ..... Not available  
O/M costs 1997: ..... Not available

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O/M costs per Service Connection: ..... Not available  
Net Revenue 1997: ..... Not available  
Total Water Produced 1997 (gallons): ..... Not available  
Water Sold 1997 (gallons): ..... Not available  
Unaccounted-for Water 1997 (%): ..... Not available

**RICHMOND MUNICIPAL UTILITIES**

PWSID: ..... 0760370  
System Type: ..... COMMUNITY  
Owner Type: ..... MUNICIPAL  
Surface Source: ..... KENTUCKY RIVER POOL 11  
Purchase Source:  
Well Source:  
Sells Water to:  
Treatment Plant Capacity (MGD): ..... 9.00  
Percent Daily Average Production: ..... 65.00  
Total Tank Storage Capacity (gallons): ..... 500,000.00  
Total Service Connections: ..... 8,200.00  
Number of Employees: ..... 24.00  
Treatment Operator Class: ..... 3D  
Distribution Operator Class: ..... 4A  
Customer Rate for 1,000 Gallons: ..... Not available  
O/M costs 1997: ..... Not available  
O/M costs per Service Connection: ..... Not available  
Net Revenue 1997: ..... Not available  
Total Water Produced 1997 (gallons): ..... Not available  
Water Sold 1997 (gallons): ..... Not available  
Unaccounted-for Water 1997 (%): ..... Not available

**SOUTHERN MADISON WATER DISTRICT**

PWSID: ..... 0760407  
System Type: ..... COMMUNITY  
Owner Type: ..... WATER DISTRICT  
Surface Source:  
Purchase Source:  
Well Source:  
Sells Water to:  
Treatment Plant Capacity (MGD): ..... 0.00  
Percent Daily Average Production: ..... 0.00  
Total Tank Storage Capacity (gallons): ..... 80,000.00  
Total Service Connections: ..... 3,119.00  
Number of Employees: ..... 7.00  
Treatment Operator Class: ..... 2D  
Distribution Operator Class:  
Customer Rate for 1,000 Gallons: ..... 5.62  
O/M costs 1997: ..... 736,182.00  
O/M costs per Service Connection: ..... 244.09  
Net Revenue 1997: ..... 62,777.00  
Total Water Produced 1997 (gallons): ..... 0.00  
Water Sold 1997 (gallons): ..... 171,053,000.00  
Unaccounted-for Water 1997 (%): ..... 24.04

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**MADISON COUNTY UTILITIES/WACO**

PWSID: ..... 0760441  
System Type: ..... COMMUNITY  
Owner Type: ..... WATER DISTRICT  
Surface Source:  
Purchase Source:  
Well Source:  
Sells Water to:  
Treatment Plant Capacity (MGD): ..... 0.00  
Percent Daily Average Production: ..... 0.00  
Total Tank Storage Capacity (gallons): ..... 200,000.00  
Total Service Connections: ..... 0.00  
Number of Employees: ..... 0.00  
Treatment Operator Class: ..... 2D  
Distribution Operator Class:  
Customer Rate for 1,000 Gallons: ..... Not available  
O/M costs 1997: ..... Not available  
O/M costs per Service Connection: ..... Not available  
Net Revenue 1997: ..... Not available  
Total Water Produced 1997 (gallons): ..... Not available  
Water Sold 1997 (gallons): ..... Not available  
Unaccounted-for Water 1997 (%): ..... Not available

**MADISON COUNTY UTILITIES/WHITE HALL**

PWSID: ..... 0760464  
System Type: ..... COMMUNITY  
Owner Type: ..... WATER DISTRICT  
Surface Source:  
Purchase Source:  
Well Source:  
Sells Water to:  
Treatment Plant Capacity (MGD): ..... 0.00  
Percent Daily Average Production: ..... 0.00  
Total Tank Storage Capacity (gallons): ..... 300,000.00  
Total Service Connections: ..... 0.00  
Number of Employees: ..... 0.00  
Treatment Operator Class: ..... 2D  
Distribution Operator Class:  
Customer Rate for 1,000 Gallons: ..... Not available  
O/M costs 1997: ..... Not available  
O/M costs per Service Connection: ..... Not available  
Net Revenue 1997: ..... Not available  
Total Water Produced 1997 (gallons): ..... Not available  
Water Sold 1997 (gallons): ..... Not available  
Unaccounted-for Water 1997 (%): ..... Not available

**KIRKSVILLE WATER ASSOCIATION**

PWSID: ..... 0760672  
System Type: ..... COMMUNITY  
Owner Type: ..... WATER ASSOCIATION  
Surface Source:

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Purchase Source:  
Well Source:  
Sells Water to:  
Treatment Plant Capacity (MGD):..... 0.00  
Percent Daily Average Production:..... 0.00  
Total Tank Storage Capacity (gallons):..... 125,000.00  
Total Service Connections: ..... 1,260.00  
Number of Employees:..... 1.00  
Treatment Operator Class: .....2D  
Distribution Operator Class:  
Customer Rate for 1,000 Gallons:..... 5.50  
O/M costs 1997:..... 322,776.00  
O/M costs per Service Connection: ..... 242.87  
Net Revenue 1997:..... 26,714.00  
Total Water Produced 1997 (gallons):..... 0.00  
Water Sold 1997 (gallons):..... 74,584,000.00  
Unaccounted-for Water 1997 (%): ..... 13.01

## OTHER SYSTEMS

### **CLAYS FERRY CAMPGROUND**

Clays Ferry Campground is located in Madison County. The system serves a population of 300 and has 112 service connections. The private, transient, non-community system has treatment capacity of 6,000 gallons per day. The water source is wells.

### **LEXINGTON BLUE GRASS ARMY DEPOT COMMANDER**

Lexington Blue Grass Army Depot Commander is located in Madison County. The system serves a population of 500 and has 250 service connections. The federal, non-transient, non-community system has treatment capacity of 750,000 gallons per day and storage capacity of 1,000,000 gallons. The water source is Lake Vega.

## PRIVATE DOMESTIC SYSTEMS

About 4,700 residents of Madison County rely on private domestic water supplies: about 1,000 on wells, and 3,700 on other sources.

Within the thin Kentucky River valley along the northern edge of Madison County and in the lower reaches of the valleys of the larger creeks that empty into the Kentucky River most drilled wells will produce enough water for a domestic supply at depths of less than 100 feet. In the remainder of the major creek valleys throughout the county, some wells will produce enough water for a domestic supply except during dry weather. In the upland areas of

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Madison County, which encompasses 70% of the county, most drilled wells will not produce enough water for a dependable domestic supply except along drainage lines that may produce enough water except during dry weather.

Throughout the county ground water is hard or very hard and may contain salt or hydrogen sulfide, especially at depths greater than 100 feet.

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